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| 10/765,510 | 01/27/2004 | Dale E. Jamison | HES 2002-IP-007905U1 | 2516 |
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| CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440 | | | EXAMINER FULLER, BRYAN A | |
| | | | ART UNIT 3676 | PAPER NUMBER |

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,510

Applicant(s)

JAMISON, DALE E.

Examiner

Bryan A. Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 26-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-64 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/27/04, 3/5/04, 9/27/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 - 25, drawn to a method of using a treatment fluid in a subterranean formation, classified in class 166, subclass 305.1.
- II. Claims 26 - 33, drawn to a method of preparing a variable pressure weighing material particle, classified in class 428, subclass 364.
- III. Claims 34 - 64, drawn to a variable density treating fluid, classified in class 507, subclass 269.

2. The inventions are distinct, each from the other because: Inventions II and III and I are related as process of use, process of making, and product, respectively. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in various well treating applications.

3. Inventions II and III are related as process of making and product. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process used to make the product could be used to make a number of other particles for various purposes.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Jeffrey Phillips on 8/11/2005 a provisional election was made with traverse to prosecute the invention of Group I claims 1 - 25.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 26 - 64 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 – 7, 9 – 12, 15, and 18 - 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Rickards et al (6,330,916).

With respect to claims 1 - 7: Rickards et al teaches in column 1, line 15 – column 3, line 5 A method of using a treatment fluid in a subterranean formation comprising introducing a treatment fluid having a density that varies as a function of pressure into a subterranean formation, wherein the treatment fluid comprises a base fluid and a portion of variable pressure weighting material particles. The reference further teaches a method wherein the treatment fluid is used as a well fluid, which is selected from the

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group consisting of drilling fluids, completion fluids, and stimulation fluids. Additionally, the well fluid can be selected from the group consisting of drilling muds, well cleanup fluids, workover fluids, spacer fluids, gravel pack fluids, acidizing fluids, and fracturing fluids. Finally, the reference teaches a method the step of producing a fluid from the subterranean formation wherein the fluid comprises oil, gas, or a mixture thereof.

With respect to claim 9: Rickards et al teaches in column 18, lines 1 – 11 a method wherein the base fluid is oil, water, or a mixture thereof. volume.

With respect to claims 10 and 11: Rickards et al teaches in column 3, lines 56 – 67 a method wherein the portion of variable pressure weighting material particles is present in the treatment fluid in an amount in the range of from about 0.01% to about 40% by volume of the treatment fluid. Since the treatment fluid is made up of a base fluid and the particles and the particles are present in the range of from about 0.01% to about 40% by volume of the treatment fluid then the base fluid is present in the treatment fluid in an amount in the range of from about 60% to about 99.99% by volume.

With respect to claim 12: Rickards et al teaches in column 3, lines 45 – 49 a method wherein the variable pressure weighting material particles have a specific gravity in the range of from about 0.1 to about 0.5.

With respect to claim 15: Rickards et al teaches in column 4, lines 58 – 64 a method wherein a portion of the variable pressure weighting material particles can withstand a pressure of up to about 21,000 psi without crushing.

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With respect to claims 18 and 19: Rickards et al teaches the features as previously claimed. Therefore, the method would inherently possess the quality wherein the density of the treatment fluid increases as the pressure in the bore hole increases.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 8, 13 – 14, 16 – 17, and 22 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickards et al in view of Brannon et al (6,508,305).

With respect to claim 8: Rickards et al teaches the features as previously claimed except for wherein the treatment fluid has a density at sea level in the range of from about 6 lb/gallon to about 18 lb/gallon. Brannon et al teaches in column 24, lines 9 – 20 a method wherein the treatment fluid has a density at sea level in the range of from about 6 lb/gallon to about 18 lb/gallon. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by using a treatment fluid that has a density at sea level in the range of from about 6 lb/gallon to about 18 lb/gallon in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is

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capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claims 13 and 14: Rickards et al teaches the features as previously claimed except for wherein a specific compressible fluid is included with the variable pressure weighting material particle. Brannon et al teaches in column 8, lines 32 – 35 a method wherein a specific compressible fluid is included with the variable pressure weighting material particle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by using a specific compressible fluid is included with the variable pressure weighting material particle in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 16: Rickards et al teaches the features as previously claimed except for wherein a portion of the variable pressure weighting material particles can rebound to about their original size and shape when pressure is removed. Brannon et al teaches in column 7, lines 46 – 57 a method wherein a portion of the variable pressure weighting material particles can rebound to about their original size and shape when pressure is removed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by having a portion of the variable pressure weighting material particles can rebound to about their original size and shape when pressure is removed in view of

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Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 17: Rickards et al teaches the features as previously claimed except for wherein a portion of the variable pressure weighting material particles can withstand temperatures up to about 500°F without degrading. Brannon et al teaches in column 10, lines 34 – 45 and in column 12, lines 41 – 51 a method wherein a portion of the variable pressure weighting material particles can withstand temperatures from 50°F to 300°F and above, which is about 500°F, without degrading. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by having a portion of the variable pressure weighting material particles that can withstand temperatures up to about 500°F without degrading in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 22: Rickards et al teaches the features as previously claimed except for wherein the treatment fluid further comprises a salt, a fluid loss additive, a shale swelling inhibitor, an emulsifier, a viscosifier, caustic, or a fixed-density weighting agent. Brannon et al teaches in column 24, lines 21 – 39 a method wherein the treatment fluid further comprises a salt, a fluid loss additive, a shale swelling inhibitor, an emulsifier, a viscosifier, caustic, or a fixed-density weighting agent.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by including a salt, a fluid loss additive, a shale swelling inhibitor, an emulsifier, a viscosifier, caustic, or a fixed-density weighting agent in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 23: Rickards et al teaches the features as previously claimed except for wherein the variable pressure weighting material particle comprises a material selected from the group consisting of: a plastic, an elastomer, and a metal. Brannon et al teaches in column 10, lines 23 – 33 a method wherein the variable pressure weighting material particle comprises a material selected from the group consisting of: a plastic, an elastomer, and a metal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by having a variable pressure weighting material particle that comprises a material selected from the group consisting of: a plastic, an elastomer, and a metal in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 24: Rickards et al teaches the features as previously claimed except for wherein the metal is memory metal. Brannon et al teaches in column 21, lines 63 – 67 a method wherein the particles are metal, but doesn't

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specifically say they are memory metal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by using memory metal in view of Brannon et al because memory metal has the ability to return to its original shape once supplied pressure is removed. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

With respect to claim 25: Rickards et al teaches the features as previously claimed except for wherein the density of the treatment fluid in the borehole is sufficient to prevent kicks without fracturing a region of the subterranean formation adjacent to the borehole. Brannon et al teaches in column 7, line 21 – column 15, line 64 a method wherein the density of the treatment fluid in the borehole is sufficient to prevent kicks without fracturing a region of the subterranean formation adjacent to the borehole. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by using a treatment fluid wherein the density of the treatment fluid in the borehole is sufficient to prevent kicks without fracturing a region of the subterranean formation adjacent to the borehole in view of Brannon et al. The motivation for this combination is that including the substantially elastic material of Brannon et al is capable of imparting resilient or elastic force so as to at least partially counteract volumetric shrinkage.

10. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickards et al in view of Boer (2002/0108782).


With respect to claims 20 and 21: Rickards et al teaches the features as previously claimed except for wherein the subterranean formation is located beneath the ocean floor. Boer teaches in paragraph [0010] a method wherein the subterranean formation is located beneath the ocean floor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rickards et al's invention by using a treatment fluid wherein the subterranean formation is located beneath the ocean floor in view of Brannon et al. The motivation for this combination is that it is common to treat subterranean formations beneath the ocean floor it is common for subterranean formations to exist beneath the ocean.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brian E. Glessner
Supervisory Patent Examiner
Art Unit 3676

baf